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ABSTRACT

The object of this study was to determine the extent to which disadvantaged kindergarten pupils would benefit from association with advantaged pupils and teachers in the improvement of basic skills and self-concept. The sample for 1967-68 was composed of 20 disadvantaged rural Negro and Caucasion 5-year-old children randomly selected. The sample for 1968-69 was reduced to 16 children. In each instance these children were integrated with approximately 30 foreign and Caucasian middle class children. In 1967-68 only the disadvantaged children were administered pre- and posttests approximately 7 months apart. Comparison of results showed significant gains in total performance, language skills, and self-concept, while IQ scores yielded nonsignificant results. In 1968-69, evaluation focused on comparisons of experimental (deprived) and control (underprived) means for pretests, posttests, and mean gains from pre- to post for each group. The results must be viewed with caution, for although scores did not show that the disadvantaged gained more, they did gain as much as the advantaged. More statistically significant divergence in favor of the control group was found between pretest results than posttest results. This reduction of difference could have been due to a combination of socialization and curriculum. (JF)

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A SOCIALLY INTEGRATED KINDERGARTEN

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SOUTH CENTRAL REGION EDUCATIONAL LABORATORY

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A SOCIALLY INTEGRATED KINDERGARTEN

I. INTRODUCTION AND PURPOSE

In 1905 Freud called attention to the relationship of early experience and later adult adjustment. Since that time there has been a steady increase of experimental studies designed to measure the influence of environment on intellectual functioning (Ginzburg and Bray, 1953; Jones, 1954; McCandless, 1952; Sarason and Gladwin, 1958; Sherman and Key, 1932; and Wheeler, 1952).

In spite of acceptance of the notion that environment is a major factor in later adult adaptability, there was diversity of thought concerning the effects of nursery school attendance on the culturally deprived child (Starkweather and Roberts, 1940).

In some instances I. Q. gains were reported for children attending preschools (Gray and Klause, 1965; Wellman, 1945), while in others no gains were found to exist (Skeel, et al, 1938). Some evidence existed that gains made were lost after the child entered the regular school system (McCandless, 1967).

Statements have been made that the ghetto-deprived child enters school with a style of learning that is not conducive to success. Placing such a child in an environment, where he had different models, it has been theorized would break old patterns of learning, and, as a consequence, the child should gain new ones related to school success (Dittes and Kelly, 1956; Mahan, 1968).

Bereiter and Engelmann (1966) stated that a well-rounded kindergarten program was incompatible with the goal of catching-up for which the deprived child must strive. Jensen (1966) said that the slow learner must spend more time in practice than the fast learner if he was to avoid progressive achievement decrement.

The purpose of this paper is to report the effects (intellectual and achievement functioning) of bussing deprived Negro and Caucasian 5-year-old children to a traditional kindergarten institution. The program in this institution was well-rounded in contrast to those kindergartens that used a selected program such as that proposed by Bereiter and Engelmann (1966).

In 1967-1968 the South Central Region Educational Laboratory and the Westover Hills Kindergarten, a traditional type of kindergarten, began a cooperative experimental program. The object was to determine to what extent disadvantaged pupils would benefit from association with advantaged pupils and teachers in the improvement of basic skills and self-concept.

The Westover Hills Kindergarten program as described by the staff had a number of objectives. These included:

a. the nurture of the non-verbal relationship

b. the nurture of situational learning (learning of the physical world and human relations)

c. orientation to a formal teaching program

The nurture of the child's learning at these three levels was described more fully by the kindergarten staff as follows:

a. The first level of nurture is the non-verbal relationship. Attitudes, expectancy, good feelings, trust, and love are all conveyed to the child without audible communication. As the child lives day by day in the nurture of the program, he becomes aware that he as an individual is important. As a response to his teachers' love, he can develop kindly feelings, concern for others, tolerance, sympathy, and generosity.

b. The second level of learning for the child is called situational. In the kindergarten program the child is free to experiment and explore both his physical world and areas of human relations. In this atmosphere he learns to work out problems that arise in the informal life in our everyday world. He begins to develop responses to his contemporaries, adults, new situations, various art media, play equipment, and the written work - as it is read to him and written for him. As a member of his group he learns to be a contributor as well as learning to benefit from others of his group. Field trips help him to adjust to new environments and to accept the care and instruction of adults other than parents and teachers.

c. The third level at which the weekday kindergarten meets the child is that of a more formal teaching program. He is taught songs, poems, and finger plays to increase his language skills. Simple folk dances,

games, and rhythm activities help body coordination and add delight to his life with friends. The kindergarten child is given opportunities to experiment with various art media, scissors, paste, clay, and other such tools of learning. He is encouraged to experiment here and to interpret his work as he chooses. The natural interest and curiosity the five-year-old has in science and the nature of his world brings many learning experiences into the kindergarten. A wealth of books are read to him, and he begins to extend his interest and listening spans; he develops a respectful attitude toward good books and an eagerness to interpret the printed page for himself. Underlying all this learning is the maturing of his power of self-control. He is learning that his will must often give in to others, that there is a time for speaking and a time for listening, a time for movement and a time for quiet.

The unique features of this weekday kindergarten program listed by the school are:

(1) limited enrollment

(2) size of groups limited

(3) separate group of four-year olds

(4) teacher load according to authorized national standards

(5) teacher training through church leadership schools

(6) parent conferences at beginning and end of school year and as needed during year

(7) age requirements related to public school law

(8) at least two field trips a month

(9) people of interest, such as postman, policeman, make visits

(10) no formal programs, rather a sharing time with parents and friends

(11) no costumes for programs

(12) flexible curriculum to meet children's interests and child participation

(13) maximum use of public library facilities, at least one book a day is read to the children

(14) no extra fees; Tuesday afternoon session included in tuition

(15) central heat and air conditioning

(16) large indoor play area

(17) playground equipment that inspires imaginative play

II METHOD

A. Population Description

The socially integrated kindergarten program activity was located in Pulaski County, Arkansas. Children involved in the activity were from Little Rock and the western part of the county. The sample for 1967-68 was composed of twenty disadvantaged rural Negro and Caucasian five-year old children randomly selected from families who qualified under the O. E. O. Operational Guidelines of Poverty. The sample for 1968-69 was reduced to sixteen children. each instance these children were integrated with approximately thirty foreign and Caucasian

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middle class children.

B. Research Design

In 1967-68 only base line data was gathered on the disadvantaged five-year old children attending the kindergarten. Comparisons were made between pre and post tests administered approximately seven months apart. In 1968-69 the research design was a conventional one of experimental (deprived) and on-site control (non-deprived). The experimental and control were both exposed to the same curriculum, a program designed to develop attitudes conducive to school achievement and to develop certain intellectual abilities, particularly those related to school success. For both years, the children were randomly assigned to classrooms and teachers.

In 1968-69 the evaluation focused on comparisons of E (deprived) and C (non-deprived) means for pre tests, post tests, and mean gains from pre to post for each group. A two-tailed t test was used to determine differences between E and C mean scores.

C. Results of the Evaluation for 1967-68

Tests administered for this period included the Wechsler Preschool and Primary Scale of Intelligence Test (WPPSI), the

Illinois Test of Psycholinguistic Abilities (ITPA), the Brown Concept Test (Brown), and the Peabody Picture Vocabulary Test (PPVT).

1. WPPSI Test Results

Results of administering the pre and post WPPSI to the deprived children are presented in Table 1. For two subtests, that of information and picture completion, results from applying the t test yielded significant results. In addition the total performance mean raw score gains of the Laboratory children reached significance ($p=<.01$).

2. ITPA Test Results

The results of administering the pre and post ITPA are presented in Table 2. Analysis of the results revealed a gain in all subtest scale scores but one, that of vocal encoding. In one subtest visual motor sequencing, the results were significant. Results from administering this test indicated that the deprived children improved in all language skills except one as measured by the ITPA.

3. Brown Self-Concept Test Results

The rown Self-Concept Test was used to evaluate gain or loss of self esteem over the program period of nine months. The subtests were designed to evaluate what the child felt about himself, what the child thought his mother felt about him,

TABLE 1
DEPRIVED SAMPLE
WPPSI STANDARD SCORE
MEANS AND STANDARD DEVIATIONS
1967-1968

		INF. SS	VOC. SS	ARITH SS	SIM. SS	COMP. SS	AN.HSE SS	P.COM. SS	MAZES SS	G.DES. SS	B.DES. SS	T.PF. SS	IQ
PRE	M	9.29	9.06	8.88	9.71	10.06	7.94	9.13	9.13	8.38	8.31	40.81	91.88
n=17	Sd	2.31	2.59	2.37	3.37	3.38	2.19	2.60	1.96	2.63	2.12	7.77	16.19
POST	M	11.24	10.18	8.65	11.65	10.65	8.94	12.25	10.38	9.56	7.88	49.13	102.31
n=17	Sd	1.86	2.96	2.20	1.97	2.91	2.04	2.01	2.22	2.61	2.70	9.13	15.24
t	M	2.701*	1.172*	-0.300	2.053*	0.543	1.375	3.795**	1.676	1.283	-0.509	2.775**	1.895*
df=32	Sd												

*p<.05
**p<.01

TABLE 2
DEPRIVED SAMPLE
ITPA STANDARD SCORE
MEANS AND STANDARD DEVIATIONS
1967-1968

		AUD. DEC.	VI. DEC.	AUD.VO. ASSOC.	VI.MO. ASSOC.	VO. ENC.	MO. ENC.	AUD.VO. AUTO.	AUD.VO. SEQ.	VI. MO. SEQ.	TOTEL SS
PRE	M	-0.46	0.20	-0.86	-0.22	-0.75	-0.64	-0.64	-0.18	-0.75	-0.99
n=17	Sd	0.99	1.21	1.08	1.62	1.08	0.90	0.90	1.03	0.70	1.20
POST	M	0.09	-0.09	-0.39	0.26	-0.74	-0.44	-0.38	-0.08	-0.04	-0.46
n=17	Sd	1.17	0.95	0.85	0.59	0.89	1.05	0.25	1.25	0.94	1.10
t	M	1.492	-0.284	1.414	1.155	0.035	0.612	0.820	0.254	2.503*	1.345
df=32	Sd										

*p<.05

what the child thought that other children felt about him, and what the child felt his teacher felt about him. The results are presented in Table 3. Comparisons of the four subtest mean raw scores pre to post by means of a t test yielded no significant results for any one subtest. However, when the total pre to post mean scores were compared by using a t test, the results were significant (p= .01).

This latter result suggests that these children did improve in self-concept as measured by the Brown Concept Test, perhaps because these children associated with middle class children.

4. PPVT Test Results

Results from administering the PPVT are presented in Table 4. Analysis of the mean I. Q. scores from pre to post test periods by means of a t test yielded non-significant results.

D. Follow-Up

The children involved in the cooperative program for 1967-68 entered two different elementary schools in the fall of 1968. These children were administered the California Achievement Test (CAT) in their respective schools, as was a randomly selected control group from the same schools. When

Table 3

Brown Self Referent Scale Mean Results
Pre and Post 1967-68 for a 5-Year-Old Culturally
Deprived Sample

		Mother	Teacher	Peers	Self	Total
Pretest	Mean	14.85	14.61	13.77	14.31	57.54
N=13	S.D.	2.23	3.64	3.24	3.52	11.64
Posttest	Mean	14.85	15.69	15.62	15.62	77.46
N=13	S.D.	2.44	1.25	1.94	1.31	5.44
t diff		0.00	1.01	1.77	1.26	5.59**

**p< .01

Table 4

Means and Standard Deviations of Raw Scores and I.Q. Scores
For the Peabody Picture Vocabulary Test for a 5-Year-Old
Deprived Sample for 1967-68

PPVT	Raw Scores		I.Q.
Pretest	Mean	43.69	83.13
N=16	S.D.	9.86	15.99
Posttest	Mean	51.19	89.56
N=16	S.D.	5.62	12.94
t diff			1.25*

* Not significant

TABLE 5

FOLLOW-UP OF EXPERIMENTAL
5-YEAR-OLD SAMPLE IN GRADE ONE
IN PULASKI COUNTY SCHOOL SYSTEM
CALIFORNIA ACHIEVEMENT TEST

		RDG. VOC.	RDG. COMP.	TOTAL RDG.	ARITH. REAS.	ARITH. FUND.	TOTAL ARITH.
E_1 n=7	M	53.00	7.57	60.57	29.14	34.00	63.14
	Sd	8.83	3.15	11.56	4.78	4.55	8.53
E_2 n=10	M	50.20	4.30	54.50	23.80	20.20	44.50
	Sd	10.82	2.66	12.16	6.88	13.46	18.71
C n=17	M	50.47	6.88	57.35	28.47	36.18	64.65
	Sd	11.25	2.83	13.21	6.42	4.64	10.37

mean raw scores for CAT subtests were compared between E_1 and C_1, E_2 and C_1, and E_1 and E_2 by means of a two tail t test analysis revealed:

(1) There was a significant difference between E_1 and E_2 for the subtest total arithmetic reading comprehension, in favor of E_2.

(2) In addition for this same subtest there was a trend in favor of E_2 over C_1.

(3) The results of comparing E_2 and C_1 for the subtest raw scores total arithmetic fundamentals yielded a trend in favor of E_2.

These combined results suggest that the E_2 group improved over E_1 and C_1 groups in arithmetic fundamentals and total arithmetic comprehension. Results are present in Table 5.

E. Evaluation 1968-1969

Experimental and control children were given the following tests pre and post for the program period of 1968-69: The Wechsler Preschool and Primary Scale of Intelligence Test (WPPSI), the Illinois Test of Psycholinguistic Abilities (ITPA), the Stanford-Binet (S-B), and the Pictoral Test of Intelligence (PTI):

1. WPPSI TEST RESULTS

Results from administering the WPPSI are presented in Tables 6 and 7. Initially pre tests means were compared by means of a t test between deprived (E) and non-deprived (C)

children. All differences were in favor of the C children. These differences reached significance for subtests vocabulary, comprehension, total verbal score, picture completion, mazes, total performance score, and total full scale scores. When post test results were compared between E and C, analysis revealed the C group mean scores were significantly different from the E group for only one subtest, that of geometric designs. This suggests that the E group initially behind in mean scores for subtests vocabulary, comprehension, total verbal score, picture completion, mazes, total performance scores and full scale scores, made gains of a nature such that, for these subtests there were no longer significant differences between groups.

When mean gain scores of E and C children were compared for each subtest of the WPPSI at the end of the program, significant differences in favor of E children were found to exist for subtests vocabulary and block design. For all other subtest analysis, favorable trends existed for E children, with but one exception, that of information. Results are present for mean gains score in Table 7.

Thus the E children began the program behind the C children when results were tabulated for each subtest, but by the end of

Table 6

THE WECHSLER PRESCHOOL AND PRIMARY SCALE OF INTELLIGENCE
VERBAL SUBTESTS SCORES FOR A 5-YEAR-OLD SAMPLE OF CULTURALLY
DEPRIVED AND NON-DEPRIVED CHILDREN 1968-69

			Info. RS	Vocab. RS	Arith. RS	Simil. RS	Compre. RS	Verbal IQ
Pretest	E pre	Mean	14.33	13.07	10.80	10.80	14.13	97.94
	N=15	S.D.	1.95	3.10	1.74	3.17	4.27	10.27
	C pre	Mean	15.26	19.26	12.03	11.71	17.81	108.52
	N=31	S.D.	2.79	6.91	2.85	3.77	3.98	13.38
Posttest	E post	Mean	16.07	19.13	13.13	14.53	16.47	106.33
	N=15	S.D.	2.15	6.31	2.29	3.74	4.88	14.06
	C post	Mean	17.00	20.87	13.81	14.32	19.26	112.61
	N=31	S.D.	2.61	7.21	2.23	4.14	4.40	15.85
Gains	E pre-E post	Mean	1.73	6.07	2.33	3.73	2.33	8.40
	N=15	S.D.	2.19	6.65	2.16	4.08	5.01	8.57
	C pre-C post	Mean	1.74	1.61	1.77	2.52	1.48	3.97
	N=31	S.D.	2.02	5.35	2.26	4.60	4.96	12.65

TABLE 7

WPPSI MEANS AND STANDARD DEVIATIONS
OF A 5-YEAR-OLD DEPRIVED AND NON-DEPRIVED SAMPLE
1968-69

			AN.HSE. RS	P.COMP. RS	MAZES RS	G.DES. RS	B.DES. RS	PER.IQ RS	FULL SCALE IQ
PRETEST	E_1	M	46.13	13.80	10.13	10.00	9.60	98.80	98.20
	n = 15	Sd	10.72	3.12	5.40	4.19	3.89	13.71	11.67
	C_1	M	47.87	16.03	14.71	12.19	12.10	109.06	109.25
	n = 31	Sd	10.49	2.85	6.67	5.06	4.32	12.90	12.26
POSTTEST	E_2	M	51.07	17.67	19.20	12.27	13.67	108.93	108.33
	n = 15	Sd	5.40	3.27	4.14	4.42	4.85	17.31	16.65
	C_2	M	50.81	18.23	20.45	15.77	13.97	115.16	115.32
	n = 31	Sd	8.61	2.28	4.20	5.48	3.24	15.46	16.00
MEAN GAINS	G_e	M	4.93	3.87	9.07	2.27	4.07	10.80	10.06
	n = 15	Sd	1.87	2.64	4.95	2.91	1.87	13.04	9.52
	G_c	M	12.90	2.45	5.74	3.94	1.87	6.48	6.90
	n = 31	Sd	9.61	2.84	5.88	4.65	4.90	15.35	12.18

TABLE 8

WECHSLER PRESCHOOL

AND PRIMARY SCALE OF INTELLIGENCE SUBTESTS ADMINISTERED

TO A 5-YEAR-OLD CULTURALLY

DEPRIVED AND NON-DEPRIVED GROUP 1968-69

t VALUES

WPPSI		Ho: $E_1-C_1=0$ df=44	Ho: $F_2-C_2=0$ df=44	Ho: $G_1-G_2=0$ df=44
INFORMATION	RS	-1.159	-1.196	-0.015
VOCAB	RS	-3.533**	-0.798	2.458*
ARITH	RS	-1.535	-0.962	0.803
SIMIL.	RS	-0.806	0.166	0.871
COMP	RS	-2.873 **	-1.948	0.545
VERBAL	IQ	-2.698 *	-1.306	1.229
AN HOUSE	RS	-0.524	0.107	0.646
P. COMPLE	RS	-2.414 *	-0.676	1.634
MAZES	RS	-2.315 *	-0.951	1.899
GEODES	RS	-1.451	2.155 *	-1.278
BLKDES	RS	-1.899	-0.249	1.681
PERF	IQ	-2.480 *	-1.233	0.941
FULL SCALE	IQ	-2.938 **	-1.372	0.885

** p=<.01

* p=<.05

the program, these children had bridged the gap and had succeeded in gaining favorably in all subtest areas but one.

This would suggest that in those areas measured by the WPPSI test, a socialization program of the type that the E children were exposed to lends itself to bridging the initial gap experienced by deprived children.

2. PTI TEST RESULTS

Results from analyzing the Pre PTI Tests indicated that, once again, the E children were lower on all subtest scores. However, for only two subtests were results found to be statistically significant when the t test was applied, that of picture vocabulary and form discrimination ($p=<.05$). When data results were compared at the end of the program, E and C children did not differ significantly in any subtest area.

When mean gain scores were computed and compared by means of a t test, trends were found to exist in favor of E children for subtests picture vocabulary, form discrimination, information, comprehension, total raw scores, total mental age, and total I. Q. scores. All other results from subtests: similarities, size and number, and immediate recall, were in favor of C children, although the differences were not significant. Results are presented in Tables 9 and 10.

It is interesting to note that E children did improve on

TABLE 9

THE PICTORIAL TEST OF INTELLIGENCE

MEANS AND STANDARD DEVIATIONS OF A 5-YEAR-OLD

DEPRIVED AND NON-DEPRIVED SAMPLE 1968-69

PTI		P.VOCAB RS	FORM DIS RS	INFO & COMP RS	SIMIL. RS	SIZE & NO RS	IMMED. RECALL RS	TOTAL RS	D. I.Q.		
					PRETEST						
E_1 n=15	M	18.87	17.13	19.40	13.27	18.93	13.73	102.27	111.27		
	Sd	4.05	3.34	1.96	2.46	1.75	1.58	10.25	9.52		
C_1 n=31	M	21.94	19.00	20.55	13.77	19.35	14.55	109.16	118.06		
	Sd	3.52	2.64	3.01	2.28	3.06	1.67	11.90	9.10		
					POSTTEST						
E_2 n=15	M	22.33	19.07	21.60	13.27	20.20	14.27	110.73	112.60		
	Sd	3.35	2.34	2.69	2.94	2.37	1.98	10.94	10.05		
C_2 n=31	M	23.52	20.03	22.35	14.74	20.77	14.90	116.92	117.94		
	Sd	3.47	3.16	2.63	2.66	2.85	1.83	10.83	9.68		
					MEAN GAINS						
E_2-E_1 n=15	M	3.47	1.27	2.20	0.00	1.27	0.80	9.47	2.47		
	Sd	3.07	3.81	2.21	2.00	2.31	1.70	5.03	4.22		
C_2-C_1 n=31	M	1.77	1.23	1.81	1.10	1.42	0.35	7.16	-0.26		
	Sd	2.86	2.85	3.18	2.81	2.46	2.11	7.01	5.83		

TABLE 10

Deprived and Non-Deprived Comparison
Mean Pretest, Postest and Mean Gain
PTI Scores For 5-year-old Group

PTI		Ho : $E_1 - C_1 = 0$	Ho : $E_2 - E_1 = 0$	Ho : $G_1 - G_2 = 0$
P. Voc.	RS	- 2.642	- 1.103	1.855
Form Disc.	RS	- 2 065	- 1.045	0.040
Inf. & Comp.	RS	- 1.345	- 0.901	0.429
Sim.	RS	- 0.680	- 1.699	- 1.361
Size & No.	RS	- 0.493	- 0.670	- 0.198
Immed. Recall	RS	- 1.589	- 1.067	0.723
Total	RS	- 1.923	- 1.637	1.145
D. I. Q.		- 2.339	- 1.734	1.624

the WPPSI similarities subtest. However, they did not improve on the PTI similarities subtest.

3. STANFORD-BINET TEST RESULTS

Results from administering the Stanford-Binet Test to E and C children yielded the following: Pre-Pre Comparison, significant at .01; Post-Post Comparison, significant at .01, both pre and post in favor of the C group, comparison of mean gain scores of the two groups yielded non-significant results. Results are presented in Table 11.

4. ITPA TEST RESULTS

In the pre-pre test comparison, a favorable trend existed for C children for subtests auditory decoding, visual decoding, auditory vocal association, motor encoding, auditory vocal automatic, and visual motor sequencing. For the remaining subtest vocal encoding, auditory vocal sequencing, and visual motor association, the trend was in favor of the E group. In no single instance were the differences statistically significant when comparisons of mean scores were made by applying the t test.

Analysis of post-post test results revealed no significant differences for any group on any subtest. There were three subtest shifts however. Initially analysis of the mean raw

TABLE 11
DEPRIVED AND NON-DEPRIVED
STANFORD-BINET MEANS AND STANDARD DEVIATIONS
FIVE YEAR OLDS

FIVE YEAR OLDS		STANFORD-BINET	
		MA	IQ
		PRETEST	
E_1 n=14	M	64.43	95.79
	Sd	8.64	14.30
C_1 n=28	M	71.07	109.00
	Sd	7.04	11.27
		POSTTEST	
E_2 n=14	M	72.21	100.43
	Sd	7.46	11.82
C_2 n=25	M	82.78	116.54
	Sd	13.25	17.83
		MEAN GAINS	
G_e	M		4.64
	Sd		10.57
G_c	M		5.71
	Sd		14.50

TABLE 12

THE ILLINOIS TEST OF PSYCHOLINGUISTIC ABILITIES SUBTEST RAW SCORES FOR A DEPRIVED AND NON-DEPRIVED SAMPLE OF 5-YEAR-OLD CHILDREN 1968-69

ITPA PRE & POST SCORES		AUD-VOC AUTO RS	VISUAL DEC. RS	MOTOR ENCODING RS	AUD-VOC ASSOC RS	VI-MOT SEQ. RS	VOCAL ENC. RS	AUD-VOC SEQ. RS	VIS MOT ASSOC.RS	AUD. DEC. RS	TOTAL RS
PRETEST	M E_1	11.27	13.20	12.53	16.87	11.47	11.47	24.40	15.40	21.20	136.00
	N=15 Sd	3.69	2.70	3.46	2.64	2.47	4.17	6.71	3.29	4.52	16.29
	M C_1	14.23	13.47	12.80	18.50	11.93	10.53	21.80	13.23	22.33	139.27
	N=30 Sd	4.01	2.69	4.02	2.83	3.04	3.85	4.28	3.85	2.10	22.91
POSTEST	M E_2	13.73	14.47	17.00	18.53	13.67	12.67	24.33	16.87	22.20	153.33
	N-15 Sd	3.15	2.53	2.93	3.04	2.38	24.97	6.17	3.85	3.99	17.75
	M C_2	15.73	15.83	17.63	19.83	12.60	13.60	22.07	17.33	26.37	161.23
	N=30 Sd	2.66	2.44	3.98	3.44	3.17	2.65	3.92	3.87	5.49	21.25
	M $GAIN_e$ (E_2-E_1)	2.47	1.27	4.47	1.67	2.20	1.20	0.00	1.47	1.00	16.67
	N-15 Sd	2.29	3.71	4.17	1.99	2.96	4.55	4.09	4.52	3.95	9.08
	M G_c (C_2-C_1)	1.43	2.37	4.83	1.33	.66	2.97	.30	4.07	3.67	20.33
	N=30 Sd	3.75	3.20	4.39	2.75	3.51	3.81	2.96	5.39	6.78	18.93

TABLE 13

THE ILLINOIS TEST OF PSYCHOLINQUISTIC ABILITIES
t VALUES FOR A DEPRIVED AND NON-DEPRIVED
SAMPLE OF 5-YEAR-OLD CHILDREN 1968-69

ITPA		Ho: $M_{el} - M_{cl} = 0$ (pre-test comp)	Ho: $M_{e1} - M_{c1} = 0$ (post-test comp)	Ho: $G_e - G_c = 0$ (Gain Comp)
AUD VOC AUTO	RS	-2.396*	-2.237*	+0.984
VIS DECODING	RS	-0.317	-1.742	-1.031
MOT ENCOD.	RS	-0.222	-0.543	-0.264
AUD. VOC ASSOC	RS	-1.862	-1.241	+0.425
VI MO SEQ	RS	-1.609	+1.153	+1.458
VOCAL ENC	RS	+0.752	-0.204	-1.377
AUD VOC SEQ	RS	+1.583	+1.499	-0.282
VI MO ASSOC	RS	+1.867	-0.377	-1.606
AUD DEC.	RS	-1.152	-2.612	-1.406
TOTAL	RS	-0.493	-1.239	-0.707

** p= <.01
* p= <.05

scores showed a trend for the E group for subtest visual motor association and vocal encoding. Analysis of final testing scores found that these two subtest scores had reversed in favor of the C group. The mean raw score of the motor sequencing subtest that had represented a trend in favor of the C group changed to favor the E group. When mean gain scores were compared at the end of the program differences were not significant for any group or any subtest. Results are found in Tables 12 and 13.

III SUMMARY

The evaluation of the 1968-69 program may be viewed in several ways and caution should be used before reaching any conclusions. An example of this can be made by looking at the gain scores of these two groups under observation. On initial examination, one could conclude that the program was ineffectual for disadvantaged children because they did not gain more than the advantaged children. This may be an invalid conclusion because, although the disadvantaged did not gain more, they did gain as much as the advantaged. Research has suggested that the disadvantaged tend to regress instead of making advances. Participating in the traditional kindergarten program appears to have prevented a backward

trend for this particular disadvantaged group. Another point is that although the gain scores between the two groups showed very few significant differences, there was more statistical significant divergence between pre test results in favor of the C group and those found between post test results. This reduction of difference between the two groups could have been due to a combination of socialization and curriculum which assisted the culturally deprived group in improving in those areas related to future school success.

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APPENDIX

TABLE 14

RAW SCORE MEANS AND STANDARD DEVIATIONS OF
THE ILLINOIS TEST OF PSYCHOLINGUISTIC ABILITIES
FOR A 5-YEAR-OLD DEPRIVED SAMPLE

5 YEAR OLDS		AUD.DEC. RS	VI. DEC. RS	AUD. ASSOC.RS	VI. ASSOC. RS	VO.ENC. RS	MO.ENC. RS	AUD. VO. AUTO.RS	AUD. VO. SEQ. RS	VI.MO. SEQ. RS	TOTAL RS
PRETEST	M	17.59	10.71	12.53	12.24	10.00	10.71	9.12	18.94	10.29	111.06
n=17	Sd	5.16	4.30	3.83	5.79	5.06	3.72	2.78	5.81	2.33	24.34
POSTTEST	M	22.06	12.24	16.47	16.59	11.71	13.06	11.29	21.71	14.53	139.00
n=17	Sd	6.28	3.42	2.45	2.43	4.77	4.53	3.18	6.32	3.47	20.92
t df=32		2.268*	1.148	3.577**	2.858**	1.012	1.654	2.126	1.327	4.162**	3.591**

**p<.01
*p<.05

TABLE 15

RAW SCORE MEANS AND STANDARD DEVIATIONS OF
WECHSLER PRESCHOOL AND PRIMARY SCALE OF INTELLIGENCE

5 YEAR OLDS		INFO.	VOC.	ARITH.	SIM.	COMP.	VERB IQ	AN.HSE	P.COMP	MAZES	G.DES.	B.DES.	PERF. IQ	FS. IQ
PRETEST	M	12.18	14.76	9.12	9.76	14.06	96.82	31.00	10.69	10.38	6.94	7.94	91.63	94.13
n=17	Sd	3.07	5.96	2.78	4.42	5.79	12.03	12.63	4.48	4.69	4.23	3.57	9.44	11.52
POSTTEST	M	15.71	19.41	11.00	14.12	17.18	102.88	46.53	17.00	16.44	11.75	10.06	98.69	101.69
n=17	Sd	1.72	6.43	2.50	2.99	5.31	10.88	7.06	2.25	5.06	3.45	4.39	12.31	11.04
t df=32		4.138**	2.185**	2.076*	3.360**	1.637	1.541	4.425**	5.034**	3.516**	3.523**	1.503	1.821	1.895

TABLE 16
PRE AND POST PICTORIAL TEST OF INTELLIGENCE MEAN DIFFERENCES AND t VALUES OF A 5-YEAR-OLD DEPRIVED AND NON-DEPRIVED SAMPLE

PTI	Ho: $E_1-C_1=0$ df=44	Ho: $E_2-C_2=0$ df=44	Ho: $G_e-G_c=0$ df=44
P. VOCAB RS	-2.642*	-1.103	1.855
FORM DIS. RS	-2.065*	-1.045	0.040
INFO & COMP RS	-1.345	-0.901	0.429
SIMIL RS	-0.680	-1.699	-1.361
SIZE & NO RS	-0.493	-0.670	-0.198
IMED. RECALL RS	-1.589	-1.067	0.723
TOTAL RS	-1.923	-1.637	1.145
IQ	-2.339*	-1.734	1.624

*p<.05
**p<.01

TABLE 17
DEPRIVED AND NON-DEPRIVED
t COMPARISONS, STANFORD-BINET

STANFORD-BINET	Ho: $E_1-C_1=0$ df=40	Ho: $E_2-C_2=0$ df=40	Ho: $G_e-G_c=0$ df=40
MA	2.671	2.764	
IQ	3.272	3.053	0.247

FIGURE 1

RESULTS OF ADMINISTERING PRE TO POST WPPSI TO
A 5-YEAR-OLD DEPRIVED AND NON-DEPRIVED SAMPLE
1968-69

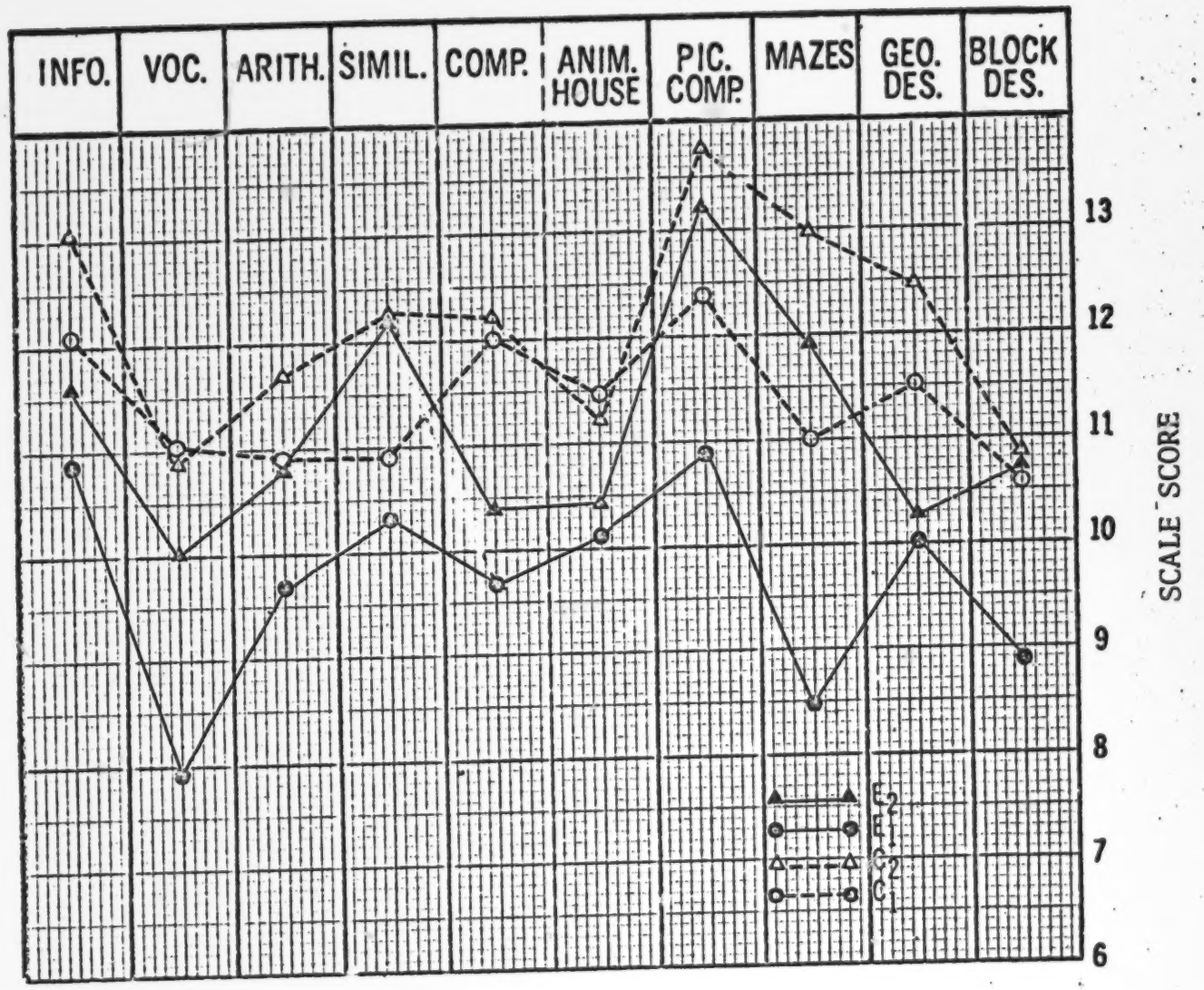

FIGURE 2

RESULTS OF ADMINISTERING PRE TO POST ITPA TO
A 5-YEAR-OLD DEPRIVED AND NON-DEPRIVED SAMPLE
1968-69